IAP15 Rec'd PCT/PTO 29 JUL 2006

PTO-1390 (Rev. 07-2005)
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ATTORNEY'S DOCKET NUMBER TRANSMITTAL LETTER TO THE UNITED STATES 4115-197 **DESIGNATED/ELECTED OFFICE (DO/EO/US)** 15 8 8 2 9 0 See 37 CFR 1.5) U.S **CONCERNING A SUBMISSION UNDER 35 U.S.C. 371** INTERNATIONAL APPLICATION NO. INTERNATIONAL FILING DATE PRIORITY DATE CLAIMED PCT/US05/02745 1/31/2005 1/30/2004 TITLE OF INVENTION DISSIMILATORY SULFATE REDUCTION AS A PROCESS TO PROMOTE DENTRIFICATION IN MARINE RECIRCULATING AQUACULTURE SYSTEMS APPLICANT(S) FOR DO/EO/US Harold J. Schreier, Yossi Tal Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information: 1. X This is a FIRST submission of items concerning a submission under 35 U.S.C. 371. This is a SECOND or SUBSEQUENT submission of items concerning a submission under 35 U.S.C. 371. 3. X This is an express request to begin national examination procedures (35 U.S.C. 371 (f)). The submission must include items (5), (6), (9) and (21) indicated below. 4. X The US has been elected (Article 31). 5. X A copy of the International Application as filed (35 U.S.C. 371 (c)(2)) a. X is attached hereto (required only if not communicated by the International Bureau), as published (WO 05/075366) b. X has been communicated by the International Bureau. c. X is not required, as the application was filed in the United States Receiving Office (RO/US). 6. An English language translation of the International Application as filed (35 U.S.C. 371 (c)(2)). a. I is attached hereto. has been previously submitted under 35 U.S.C. 154(d)(4). Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)) are attached hereto (required only if not communicated by the International Bureau). have been communicated by the International Bureau. have not been made; however, the time limit for making such amendments has NOT expired. d. X have not been made and will not be made. 8. An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)). 9. X An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)). Items 11 to 20 below concern document(s) or information included: An Information Disclosure Statement under 37 CFR 1.97 and 1.98. An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included. 12. l 13. X A preliminary amendment. An Application Data Sheet under 37 CFR 1.76. 15. A substitute specification. 16. X A power of attorney and/or change of address letter (with accompanying 3.73 Statement) A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 37 CFR 1.821 – 1.825. 17. 18. A second copy of the published International Application under 35 U.S.C. 154(d)(4). A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).

This collection of information is required by 37 CFR 1.414 and 1.491–1.492. The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 15 minutes to complete, including gathering information, preparing, and submitting the completed form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. U.S. APPL INTERNATIONAL APPLICATION NO. ATTORNEY'S DOCKET NUMBER see 67 CFR 1.5) PCT/US05/02745 4115-197 3.73 Statement enclosing a Notice of Recordation of Assignment, to support enclosed Power of Attorney to Prosecute Applications Before the USPTO The following fees have been submitted **CALCULATIONS** PTO USE ONLY [x] 21. \$300 \$300 Examination fee (37 CFR 1.492(c)) 22 \$ 200 If the written opinion prepared by ISA/US or the international preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of the PCT PCT Article 33(1)-(4)..... \$200 Search fee (37 CFR 1,492(b)) I x l \$ 500 If the written opinion of the ISA/US or the International preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of the PCT Article 33(1)-(4).... \$0 Search fee (37 CFR 1.445(a)(2)) has been paid on the international application to the USPTO as an \$100 previously communicated to the US by the IB..... \$400 All other situations . \$500 TOTAL OF 21, 22 and 23 = \$1,000 Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing IN COMPLIANCE WITH 37 cfr 1.821(c) or (e) or computer program listing in an electronic medium) (37 CFR 1.492(j)). The fee is \$250 for each additional 50 sheets of paper or fraction thereof. **Total Sheets** Extra sheets Number of each additional 50 or fraction RATE thereof (round up to a whole number) 31 -100 =0 /50 = \$250 \$ 0 Surcharge of \$130.00 for furnishing any of the search fee, examination fee, or the oath or declaration after the \$ 0 date of the commencement of the national stage (37 CFR 1.492(h)). **CLAIMS** NUMBER FILED NUMBER EXTRA RATE \$ Total claims 5 - 20 = Х \$50 \$ 0 0 Independent claims 0 \$ 0 1-3= х \$200 MULTIPLE DEPENDENT CLAIM(S) (if applicable) \$ 0 TOTAL OF ABOVE CALCULATIONS = \$1,000 Applicant claims small entity status. See 37 CFR 1.27. Fees above are reduced by 1/2. \$500 **SUBTOTAL** \$500 Processing fee of \$130.00 for furnishing the English translation later than 30 months from the earliest claimed \$ 0 priority date (37 CFR 1.492(i)). TOTAL NATIONAL FEE = \$500 Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property TOTAL FEES ENCLOSED = Amount to be \$ refunded: Amount to be \$ charged:

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a. A check in the amount of \$t	cover the above fees is enclosed.			
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d. X Fees are to be charged to a credit card. WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.				
NOTE: Where an appropriate time limit under 37 CFR 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the International Application to pending status.				
SEND ALL CORRESPONDENCE TO:	mx			
INTELLECTUAL PROPERTY/TECHNOLOGY LAW	CICNATURE			
P.O. Box 14329 Research Triangle Park, NC 27709-4329	SIGNATURE:			
	Steven J. Hultquist NAME			
	· · · · · · · ·			
	28,021 REGISTRATION NUMBER			

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re United States	Patent Application of:)	
Applicants:	SCHREIER, Harold J.) Docket No.:	4115-197
Application No.:	New U.S. National Stage Application of PCT International Application No. PCT/US2005/002745	Examiner:	Not Yet Assigned
Int'l Filing Date:	31 January 2005) Art Unit:	Not Yet Assigned
Title:	DISSIMILATORY SULFATE REDUCTION AS A PROCESS TO PROMOTE DENITRIFICATION IN MARINE RECIRCULATING AQUACULTURE SYSTEMS	Customer No.:)))	23448

EXPRESS MAIL CERTIFICATE

I hereby certify that I am mailing the attached documents to the Commissioner for Patents on the date specified, in an envelope addressed to Mail Stop: PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 and Express Mailed under the provisions of 37 CFR 1.10.

Steven J. Hultquist

July 29, 2006 Date

EO 010 230 480 US Express Mail Label Number

SUBMISSION UNDER 35 U.S.C. §371 OF UNITED STATES PATENT APPLICATION (NATIONAL PHASE PROCEEDINGS) BASED ON INTERNATIONAL APPLICATION NO. PCT/US2005/002745

Mail Stop: PCT

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

Submitted herewith for filing under the provisions of 37 CFR §1.53 and 35 U.S.C. §371 is the above-referenced patent application, based on International Patent Application No. PCT/US2005/002745, filed 31 January 2005 in the name of Harold J. Schreier and Yossi Tal for "DISSIMILATORY SULFATE REDUCTION AS A PROCESS TO PROMOTE DENITRIFICATION IN MARINE RECIRCULATING AQUACULTURE SYSTEMS," which claims the benefit of priority under 35

USC §119(e) of U.S. Provisional Patent Application No. 60/540,566 filed 30 January 2004. Enclosed herewith is a copy of the PCT International Publication No. WO 2005/075366 A1. Further included is a Preliminary Amendment, a return postcard, and a credit card form in the amount of \$500.00 and 35 U.S.C. §371 transmittal forms.

Please direct correspondence relating to this application to Steven J. Hultquist, Intellectual Property Technology Law, P.O. Box 14329, Research Triangle Park, NC 27709, and direct telephonic communications relating to this application to Steven J. Hultquist at (919) 419-9350.

Respectfully submitted,

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